



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION II

DATE:

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SUBJECT: National Priorities List Removal Site Evaluation for Newtown Creek, Brooklyn/Queens,  
Kings/Queens Counties, New York

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TO: File

The United States Environmental Protection Agency (EPA) is required to complete a Removal Site Evaluation (RSE) under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) at all newly proposed National Priority List (NPL) sites. The purpose of the RSE is to determine whether the NPL site poses an acute risk to public health and the environment, and whether there are any reasonably foreseeable threats of immediate endangerment. The goal of this determination is to address near-term risks that may exist at NPL sites before the completion of any remedial actions. Newtown Creek was proposed for placement onto the NPL in September 2009 and subsequently listed final on September 29, 2010.

Newtown Creek, a brackish tidal arm of the New York-New Jersey Harbor Estuary, is located between the border of Queens and Brooklyn in New York City. The Site itself consists of the contaminated sediments and water of Newtown Creek, but does not include the shoreline or areas beyond the shoreline. Newtown Creek is a navigable waterway that extends approximately 3.8 miles from the East River and includes five branches: English Kills, East Branch, Maspeth Creek, Whale Creek, and Dutch Kills. Although tidal, the creek is mostly stagnant. It borders the neighborhoods of Long Island City, Woodside, Maspeth, and Ridgewood in Queens, and Greenpoint, Williamsburgh, and Bushwick in Brooklyn. The adjacent waterfront property and adjoining areas consist of active and vacant industrial use, with residential neighborhoods generally set back a few blocks. Almost the entire waterfront is zoned for heavy manufacturing and industrial use. The waterway is used for commercial, as well as, limited recreational purposes such as kayaking and boating. Newtown Creek reportedly affords only one point of public access and has only one residential building along its banks. Blue-claw crabs, bluefish, weakfish, striped bass, and other species inhabit the creek, and fishing and crabbing for human consumption occurs. Subsistence fishing has been observed in Newtown Creek at Dutch Kills, and crabbing for consumption has been observed at the end of Manhattan Avenue in Brooklyn.

In the early 19<sup>th</sup> century, the area around Newtown Creek was home to farms and plantations. As a result of the Industrial Revolution and the development of the area, by the 1850s, the area surrounding and adjacent to Newtown Creek had become one of the largest industrial centers in New York City. By 1870, more than 50 oil refineries were located along the banks of Newtown Creek. Prior to the end of the century, the creek was lined with oil refineries, petrochemical plants, ship yards, sugar refineries, tanning facilities, canneries, fat rendering plants, saw mills, paint works, and lumber and coal yards.

Newtown Creek was eventually widened, deepened, and lined with bulkheads. It was used by commercial vessels, including large boats bringing in raw materials and fuel, and taking out, oil, varnish, chemicals, and metals. There were facilities involved in copper smelting; chemical, paint, fertilizer, and glue production; energy production at manufactured gas plants and natural gas facilities; shipbuilding; and aluminum manufacture for airplanes. During World War II, Newtown Creek was the busiest industrial port in the northeast. By the mid-20<sup>th</sup> century however, commerce began to shift away from the area, which impacted the established manufacturing base. Today, there remains some bulk fuel storage, a cement plant, scrap yards, distribution facilities, construction companies, recycling facilities, and a dry ice manufacturer.

Through the years Newtown Creek received untreated industrial waste, raw sewage, and runoff. Raw sewage reportedly was discharged into Newtown Creek from 1865 to 1967. The Newtown Creek Water Pollution Control Plant, New York City's largest wastewater treatment plant, opened in 1967 and serves 1 million residents in a drainage area of more than 15,000 acres. Efforts to upgrade the plant began in 1998 and are ongoing. Currently, the only flow into Newtown Creek is from storm water runoff, combined sewer overflows, and discharges from permitted and unpermitted sources. The City of New York maintains 23 permitted CSO discharges into Newtown Creek. The creek also receives effluent from more than 200 other storm water or industrial discharges.

EPA completed an extensive study of possible contamination sources in September 2008. Searches of Federal and State environmental databases indicate that there are hundreds of possible contamination sources in the vicinity of Newtown Creek, including oil refineries and depots, former manufactured gas plants (MGPs), chemical plants, manufacturing facilities, rail yards, auto repair shops, tank cleaning companies, recycling and waste management facilities, various commercial enterprises, and facilities operated by various State and City agencies.

There are also many vacant and contaminated properties clustered along Newtown Creek that have impacted the sediments, surface water and the groundwater in the area. A few of the more prominent ones include: the Greenpoint Petroleum Remediation Project (GPRP), Phelps Dodge, BCF Oil, Quanta Resources, and National Grid.

The **GPRP** consists of a release of petroleum products into the subsurface of the Greenpoint section of Brooklyn. Investigations have revealed that an estimated 17 to 30 million gallons of petroleum products had been released over a period of many years. A cleanup of this spill has been ongoing since 1978 at five sites along Newtown Creek. Recovery wells and soil vapor extraction units have been installed to remove free product and subsurface vapors. Over 10 million gallons of petroleum product have reportedly been recovered by the various responsible parties under oversight of the New York State Department of Environmental Conservation.

**Phelps Dodge** is a former copper smelting and chemical production facility that operated on 35 acres along Newtown Creek from 1888 to 1983. Heavy metals, polychlorinated biphenyls (PCBs), and volatile and semi-volatile organic compounds, including polycyclic aromatic hydrocarbons (PAHs), have been identified at the Site. Cleanup of the Phelps Dodge Site began in 1999 under NYSDEC oversight and remedial construction activities in the upland areas of the site are reported to be complete. Investigation efforts into the groundwater, surface water, and sediment contamination are ongoing.

**BCF Oil** is a former petroleum distribution and waste oil recycling facility that operated on 1.9 acres along the English Kill. The original petroleum operations date back to the 1930s. EPA conducted a removal action at the Site beginning in 2000 and removed 800,000 gallons of PCB-contaminated oil, wastewater and sludge. The Site is being investigated and redeveloped as an automobile impound lot under NYSDEC oversight.

**Quanta Resources** has been used for a variety of industrial purposes since the late 19<sup>th</sup> century. The 1.8 acre property was used for a period of 50 years to refine waste oils. In 1982, the New York City Department of Environmental Protection completed an emergency removal action to address more than 500,000 gallons of wastes containing PCBs, chlorinated solvents, heavy metals, and cyanide. The NYSDEC has proposed a remedial strategy which includes light nonaqueous phase liquid recovery.

**National Grid** operates the Greenpoint Energy Center adjacent to Newtown Creek. The facility functioned as a large MGP and byproduct coking operation from 1928 until 1952. According to New York State, past operations at the site resulted in the release of heavy metals, PCBs, petroleum products, volatile and semi-volatile organic compounds, and cyanide. These wastes have entered the surface water and sediments of Newtown Creek and the Site is believed to be serving as a continuing source of contaminant releases to Newtown Creek. National Grid is working with the NYSDEC to address these areas.

Numerous past investigations with varying scopes have been conducted in and around Newtown Creek. Sampling events have shown the sediments in Newtown Creek to be contaminated with antimony, arsenic, cadmium, chromium, copper, lead, nickel, selenium, silver, zinc, PAHs, phthalates, PCBs, and VOCs. From February to April 2009, EPA collected various sediment samples from Newtown Creek down to 6 feet. The analytical

results revealed the presence of heavy metals; VOCs; semi-volatile organic compounds, including PAHs; and PCBs in the sediments at concentrations significantly above background. Calcium, copper, and zinc exceeded one percent in some areas. The sampling results from this event show that contaminated sediments are located throughout Newtown Creek. Based on this limited information, it is estimated that the upper four feet of sediment is significantly contaminated.

EPA initiated a Remedial Investigation/Feasibility Study (RI/FS) at Newtown Creek in February 2010. The RI/FS process will characterize environmental conditions at Newtown Creek and connecting tributaries, determine the nature of the waste, assess risk to human health and the environment, and evaluate potential cleanup alternatives. As of this time, EPA has identified six Potentially Responsible Parties (PRPs) that are believed to have contributed hazardous substances into Newtown Creek through operation conducted along the creek: BP America, Inc., Brooklyn Union Gas Company d/b/a National Grid, the City of New York, ExxonMobil Oil Corporation, Phelps Dodge Refining Corporation, and Texaco, Inc. EPA is involved in negotiations with these parties seeking their agreement to perform the RI/FS under EPA oversight. EPA is continuing PRP search activities and anticipates that additional PRPs will be identified.

In conclusion, there has been a release of CERCLA-designated hazardous substances at Newtown Creek. Elevated levels of various substances, from a variety of historical and ongoing sources, including but not limited to spillage, direct discharges, contaminated groundwater discharges, surface water runoff, storm water discharges, and soil erosion from contaminated properties have been identified in the creek sediments. Based on the available information, including likely exposure scenarios, there are presently no known or reasonably foreseeable threats of immediate endangerment that would warrant a CERCLA removal action. EPA's remedial program is currently taking timely and appropriate actions to further investigate the extent of contamination, evaluate the associated risks, and identify the appropriate remedial action for the Site.

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